



Flight Report

Operation Ice Bridge Spring 2012

UAF Alaska Flight No 8
Mission Plan: St. Elias Range

Flight Report Summary

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|---------------------------|---|
| Aircraft | DHC-3 Otter |
| Flight Number | DHC3- |
| Flight Request | 12M014 |
| Flight Hours | 5.4 |
| Take off time | 18:17 Z from Ultima Thule |
| Landing time | 00:54 Z at Ultima Thule |
| Date | March 25, 2012 |
| Purpose of Flight | LiDAR and radar surveys of glaciers within the St. Elias Range, Alaska. |
| Aircraft Status | Airworthy. |
| Sensor Status | operational. |
| Significant Issues | none. |
| Accomplishments | <ul style="list-style-type: none">• Radar bed mapping of Tana, Bagley, Bering, Yahtse, Malaspina and Seward Glaciers• LiDAR centerline profiles and cross profiles of Tana, Bagley, Bering, Yahtse, Malaspina and Seward Glaciers. |

Science Data Report Summary

This mission performed LiDAR surveys and radar bed mapping of glaciers within the St. Elias Range, Alaska.

Geographic keywords: (St Elias Range, Alaska)

Repeat Mission: yes

| Instrument | Instrument Operational | | Data Volume | Instrument Issues |
|--|------------------------|------------------------|-------------|-------------------|
| | Target area | Entire Flight | | |
| UAF LiDAR | Yes | YES | 0.8 GB | None |
| GPS | Yes | YES | 50 MB | None |
| IMU | Yes | Yes | 1 GB | None |
| JPL Warm Ice Sounding Explorer (WISE) radar | yes | Just over the glaciers | 14 GB | None |

Mission Log (Chris Larsen)

Weather conditions were great, light winds with some high clouds; limited low-lying clouds and fog on the glaciers. We started with a quick test flight, trying out different configurations for the radar electronics. After a landing back at our remote base of operations, the radar transmitter was swapped out with a spare that seemed to be transmitting higher power. We then began up the Tana Glacier to the divide with the Bagley Ice Valley, then continuing up the Bagley with a series of cross profiles and zig-zags. We then hopped the divide to the Yahtse Glacier and flew some cross sections and centerlines. From there we transited across the Malaspina Piedmont gathering depth measurements along a new cross sections, and fueled in Yakutat. From Yakutat, we flew the Malaspina centerline up to the Seward and finished with a series of cross profiles on the Seward. We flew one centerline profile of the No Name Glacier, and then returned to our remote base of operations at Ultima Thule.

Individual instruments on board the aircraft:

LiDAR: The UAF LiDAR system worked well.

GPS: System worked normally. No problems.

Warm Ice Sounding Explorer (WISE) radar: System worked great.

IMU: System worked well. No issues.

DMS: System worked well. No issues.

